



HISTORIC LANDMARK OF AGRICULTURAL ENGINEERING

AUSTRALIAN FARMERS BEGAN DEVELOPING
MACHINES FOR HARVESTING SUGAR CANE
AROUND 1890. COMMERCIAL SUCCESS WAS
ACHIEVED IN THE 1960S AND MANUFACTURING
CENTRED ON BUNDABERG.

BY 1970 TOFT BROS. AND MASSEY FERGUSON
WERE THE MAJOR MANUFACTURERS OF CANE
HARVESTERS WORLDWIDE AND BUNDABERG HAD
BECOME THE ACKNOWLEDGED WORLD CENTRE OF

DEVELOPMENT AND MANUFACTURE
OF SUGAR CANE HARVESTERS

THEREBY MAKING A MAJOR CONTRIBUTION
TO AUSTRALIAN INDUSTRY.

DEDICATED BY
THE INSTITUTION OF ENGINEERS, AUSTRALIA
AUGUST 1984

SUGAR CANE HARVESTING

THE DEVELOPMENT AND MANUFACTURE OF
SUGAR CANE HARVESTERS
CENTERED ON THE CITY OF BUNDABERG

One of the earliest Australian mechanical cane harvesters was invented by John Rowland of Bundaberg in 1898. Steam-driven, the unwieldy 27 metre long machine could only cut straight cane. Other harvester inventors of that era were H.F. Callender, C.D. Bock, J.A. Smith and R.H. Paul.

The first cane harvester to be extensively demonstrated in Queensland was developed 1908-16 by Bundaberg canegrower Charles Hurrey. The project was partially financed by Ralph Falkiner, a pastoralist and shearing machine inventor. Further development took place and, in 1929, Falkiner and W.G. Charley accompanied one of these Falkiner harvesters to Cuba. The two men converted the machine to chopper harvesting, the first commercial application of chopper harvesting in the world. Fourteen of these machines operated in Florida for a period.

Two other companies built machines in Australia pre-war, the Mackay Cane Harvester Co. constructed the Miller-Owen and the Fairymead Co. sponsored the Howard. At Sydney in 1934, Jim Vichie and Clifford Howard converted the Howard machine into a chopper harvester and tested it in the factory with sugar cane transported from the Northern Rivers. This was the first chopper harvester built in Australia. During World War II, under the influence of Charles Young, Vichie developed the Fairymead two row harvester. This was the first commercial whole stalk harvester used in Australia.

By 1941, Bundaberg canefarmers, Joe and Harold Toft had developed the first commercial whole stalk loader in Australia. In 1951, George Quaid of Mossman developed a successful front end loader for wholestalk cane.

During World War II, Harold Toft had also developed and manufactured a whole-stalk harvester on a Farmall tractor. However, labour became plentiful after the war and reduced the incentive for further development. By 1957, Harold and Colin Toft achieved commercial success with an improved loader and then a wholestalk harvester — Model 250. This was followed in 1963 by the Slim Jim, the first "over the row" harvester, and later the J150 and J250.

In 1958, Massey Ferguson released its tractor mounted chopper harvester, the MF 515 built by Jack Douglas and Jim Woods at Sunshine, Victoria from a sketch by Ken Gaunt. At Sunshine, the mock up drum/cutter device had been tested with bamboo. Chopper harvested cane in billets approximately 250mm long was easier to handle but it was soon found that the cane deteriorated quickly creating processing problems for the sugar mills.

The Australian Sugar Industry devoted a

great deal of research effort to the problem of deterioration of chopped cane. Cane transport scheduling was improved and chopper harvesting was totally accepted by 1973.

In 1963, Wyper Brothers of Bundaberg commenced manufacture of the successful Don Mizzi tractor mounted chopper harvester designed by Laurence Mizzi, a cane farmer of Ingham. In 1964, Crichton Industries moved to Bundaberg to manufacture the wholestalk harvester designed by Bill Crichton of Mackay.

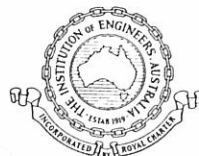
By 1967, Bundaberg was of world importance turning out the Crichton, Massey Ferguson, Toft and Mizzi harvesters. 59% of the Queensland crop was now machine harvested. The international market was developing and competition was intense. Toft Bros. and Massey Ferguson emerged the victors, offering a range of chopper harvesters which were now preferred by the sugar mills.

Massey Ferguson took over Crichton Industries in 1967 and transferred all cane harvesting manufacture from Sunshine to Bundaberg in 1968. Crichton Industries was renamed Massey-Ferguson Cane Equipment in 1971, the year in which its MF201 combine chopper harvester won the Prince Phillip Design Award for Australia. Toft Bros. Industries, floated as a public company in 1965, absorbed Wyper Bros. in 1972. It saw various changes of ownership and was purchased in 1980, by the Canadian based Versatile Corporation to become known as Versatile Toft Ltd. The ingenious Harold Toft retired as Engineering Manager in 1977 after developing the successful '000 series combine chopper harvesters.

In 1984, approximately 1800 chopper harvesters cut the Australian harvest of around 25 million tonnes of cane. International sales of harvesters recommenced in the early sixties. To 30th June, 1984, a total of 2314 harvesters have been exported to 52 countries world wide. This includes 34 Wholestalk harvesters, 179 tractor mounted chopper harvesters and 2102 combine chopper harvesters. The first combine chopper harvesters were exported in 1969.

Many other people contributed ideas and constructed machines. The total effort is recognised by the Institution of Engineers with an Historic Landmark presented by the City of Bundaberg in August 1984 which is located in Buss Park adjacent to the Civic Centre. The Institution wishes to acknowledge the following references:

EASTERBY H.T. (1933) "The Queensland Sugar Industry" Qld Govt. Printer.
KERR, J. (1983) "Southern Sugar Saga". Bundaberg Sugar Co.
MORTON, H.C. and BURROWS G. (1984) "The Cane Cutters", in press.



The Institution is proud to recognise this achievement
in Agricultural Engineering.